

=====

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)  
217-9197 (toll free).

Reviewer: Durreshwar Anjum

Timestamp: [year=2009; month=4; day=25; hr=13; min=17; sec=8; ms=814; ]

=====

Application No: 10522388

Version No: 1.0

Input Set:

Output Set:

Started: 2009-04-14 15:12:17.444

Finished: 2009-04-14 15:12:19.194

Elapsed: 0 hr(s) 0 min(s) 1 sec(s) 750 ms

Total Warnings: 16

Total Errors: 0

No. of SeqIDs Defined: 29

Actual SeqID Count: 29

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (1)
W 213	Artificial or Unknown found in <213> in SEQ ID (2)
W 213	Artificial or Unknown found in <213> in SEQ ID (3)
W 213	Artificial or Unknown found in <213> in SEQ ID (4)
W 213	Artificial or Unknown found in <213> in SEQ ID (5)
W 213	Artificial or Unknown found in <213> in SEQ ID (6)
W 213	Artificial or Unknown found in <213> in SEQ ID (7)
W 213	Artificial or Unknown found in <213> in SEQ ID (8)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)
W 213	Artificial or Unknown found in <213> in SEQ ID (10)
W 213	Artificial or Unknown found in <213> in SEQ ID (11)
W 213	Artificial or Unknown found in <213> in SEQ ID (15)
W 213	Artificial or Unknown found in <213> in SEQ ID (20)
W 213	Artificial or Unknown found in <213> in SEQ ID (27)
W 213	Artificial or Unknown found in <213> in SEQ ID (28)
W 213	Artificial or Unknown found in <213> in SEQ ID (29)

# SEQUENCE LISTING

<110> Ross, Richard  
Sayers, Jon  
Artymiuk, Peter

<120> Cytokine Polypeptides and Antibodies Containing A Signal  
Sequence for the Attachment of Glycosylphosphatidylinositol

<130> 100042.59316US

<140> 10522388

<141> 2009-04-14

<150> 10/552,388

<151> 2005-10-07

<150> PCT/GB04/001572

<151> 2004-04-07

<150> GB 0324235.1

<151> 2003-10-16

<150> GB 0308088.4

<151> 2003-04-09

<160> 29

<170> PatentIn version 3.5

<210> 1

<211> 794

<212> DNA

<213> Artificial Sequence

<220>

<223> fusion protein comprising growth hormone fused to domain  
comprising glycosylphosphatidylinositol

<400> 1

ggatcctcta gactcgaggt cctacaggta tggatctctg gcagctgctg ttgaccttgg	60
cactggcagg atcaagtgat gctcatatgt tccaacacat tcccttatcc aggccttttg	120
acaacgctag tctccgcgcc catcgtctgc accagctggc ctttgacacc taccaggagt	180
ttgaagaagc ctatatcca aaggaacaga agtattcatt cctgcagaac cccagacct	240
ccctctgttt ctcagagtct attccgacac cctccaacag ggaggaaaca caacagaaat	300
ccaacctaga gctgctccgc atctccctgc tgctcatcca gtctgtgctg gagcccgctgc	360
agttcctcag gagtgtcttc gccaacagcc tgggtgtacg cgctcttgac agcaacgtct	420
atgacctcct aaaggaccta gaggaaggca tccaaacgct gatggggagg ctggaagatg	480
gcagcccccg gactgggcag atcttcaagc agacctacag caagttcgac acaaactcac	540

acaacgatga cgcactactc aagaactacg ggctgctcta ctgcttcagg aaggacatgg	600
acaaggtcga gacattcctg cgcacgtgc agtgccgctc tgtggagggc agctgtggct	660
tgggcggtgg aggggatatc gacaagctgg tcaagtgtgg cggcataagc ctgctggttc	720
agaacacatc ctggatgctg ctgctgctgc tttccctctc cctcctccaa gccctagact	780
tcattttctct gtga	794

<210> 2

<211> 254

<212> PRT

<213> Artificial Sequence

<220>

<223> fusion protein comprising growth hormone fused to a  
glycosylphosphatidyinositol domain

<400> 2

Met	Asp	Leu	Trp	Gln	Leu	Leu	Leu	Thr	Leu	Ala	Leu	Ala	Gly	Ser	Ser
1				5					10					15	

Asp	Ala	His	Met	Phe	Pro	Thr	Ile	Pro	Leu	Ser	Arg	Leu	Phe	Asp	Asn
			20					25					30		

Ala	Ser	Leu	Arg	Ala	His	Arg	Leu	His	Gln	Leu	Ala	Phe	Asp	Thr	Tyr
		35					40					45			

Gln	Glu	Phe	Glu	Glu	Ala	Tyr	Ile	Pro	Lys	Glu	Gln	Lys	Tyr	Ser	Phe
	50					55					60				

Leu	Gln	Asn	Pro	Gln	Thr	Ser	Leu	Cys	Phe	Ser	Glu	Ser	Ile	Pro	Thr
65					70					75				80	

Pro	Ser	Asn	Arg	Glu	Glu	Thr	Gln	Gln	Lys	Ser	Asn	Leu	Glu	Leu	Leu
			85						90					95	

Arg	Ile	Ser	Leu	Leu	Leu	Ile	Gln	Ser	Trp	Leu	Glu	Pro	Val	Gln	Phe
			100					105					110		

Leu	Arg	Ser	Val	Phe	Ala	Asn	Ser	Leu	Val	Tyr	Gly	Ala	Ser	Asp	Ser
			115				120					125			

Asn	Val	Tyr	Asp	Leu	Leu	Lys	Asp	Leu	Glu	Glu	Gly	Ile	Gln	Thr	Leu
	130					135					140				

Met Gly Arg Leu Glu Asp Gly Ser Pro Arg Thr Gly Gln Ile Phe Lys  
 145 150 155 160

Gln Thr Tyr Ser Lys Phe Asp Thr Asn Ser His Asn Asp Asp Ala Leu  
 165 170 175

Leu Lys Asn Tyr Gly Leu Leu Tyr Cys Phe Arg Lys Asp Met Asp Lys  
 180 185 190

Val Glu Thr Phe Leu Arg Ile Val Gln Cys Arg Ser Val Glu Gly Ser  
 195 200 205

Cys Gly Phe Gly Gly Gly Gly Asp Ile Asp Lys Leu Val Lys Cys Gly  
 210 215 220

Gly Ile Ser Leu Leu Val Gln Asn Thr Ser Trp Met Leu Leu Leu Leu  
 225 230 235 240

Leu Ser Leu Ser Leu Leu Gln Ala Leu Asp Phe Ile Ser Leu  
 245 250

<210> 3

<211> 1607

<212> DNA

<213> Artificial Sequence

<220>

<223> fusion protein comprising growth hormone fused to growth hormone  
 receptor

<400> 3

ggatcctcta gactcgaggt cctacaggta tggatctctg gcagctgctg ttgaccttgg	60
cactggcagg atcaagtgat gtcatatgt tccaacccat tcccttatcc aggccttttg	120
acaacgctag tctccgcgcc catcgtctgc accagctggc ctttgacacc taccaggagt	180
ttgaagaagc ctatatccca aaggaacaga agtattcatt cctgcagaac cccagacct	240
ccctctgttt ctcagagtct attccgacac cctccaacag ggaggaaaca caacagaaat	300
ccaacctaga gctgctccgc atctccctgc tgctcatcca gtctgtgctg gagcccgctgc	360
agttcctcag gagtgtcttc gccaacagcc tgggtgtacgg cgcctctgac agcaacgtct	420
atgacctcct aaaggaccta gaggaaggca tccaaacgct gatggggagg ctggaagatg	480
gcagcccccg gactgggcag atcttcaagc agacctacag caagttcgac acaaactcac	540

acaacgatga cgcactactc aagaactacg ggctgctcta ctgcttcagg aaggacatgg 600  
 acaaggtcga gacattcctg cgcacgtgc agtgccgctc tgtggagggc agctgtggct 660  
 tcggcgggccg cgggtggcgga ggtagtgggtg gcggaggtag cgggtggcgga ggttctgggtg 720  
 ggggaggttc cgaattcttt tctggaagtg aggccacagc agctatcctt agcagagcac 780  
 cctggagtct gcaaagtgtt aatccaggcc taaagacaaa ttcttctaag gagectaaat 840  
 tcaccaagtg ccgttcacct gagcgagaga ctttttcatg ccactggaca gatgaggttc 900  
 atcatggtac aaagaaccta ggaccatac agctgttcta taccagaagg aacactcaag 960  
 aatggactca agaatggaaa gaatgccttg attatgtttc tgctggggaa aacagctgtt 1020  
 actttaattc atcgtttacc tccatctgga taccttattg tatcaagcta actagcaatg 1080  
 gtggtacagt ggatgaaaag tgtttctctg ttgatgaaat agtgcaacca gatccacca 1140  
 ttgcctcaa ctggacttta ctgaacgtca gtttaactgg gattcatgca gatatccaag 1200  
 tgagatggga agcaccacgc aatgcagata ttcagaaagg atggatgggt ctggagtatg 1260  
 aacttcaata caaagaagta aatgaaacta aatggaaaat gatggaccct atattgacaa 1320  
 catcagttcc agtgtactca ttgaaagtgg ataaggaata tgaagtgcgt gtgagatcca 1380  
 aacaacgaaa ctctggaaat tatggcgagt tcagtgaggt gctctatgta acacttcctc 1440  
 agatgagcca atttcatgt gaagaagatt tctacggcgg tggaggggat atcgacaagc 1500  
 tgggtcaagtg tggcggcata agcctgctgg ttcagaacac atcctggatg ctgctgctgc 1560  
 tgctttccct ctcctcctc caagccctag acttcatttc tctgtga 1607

<210> 4

<211> 525

<212> PRT

<213> Artificial Sequence

<220>

<223> fusion protein comprising growth hormone fused to growth hormone receptor

<400> 4

Met Asp Leu Trp Gln Leu Leu Leu Thr Leu Ala Leu Ala Gly Ser Ser  
 1 5 10 15

Asp Ala His Met Phe Pro Thr Ile Pro Leu Ser Arg Leu Phe Asp Asn  
 20 25 30

Ala Ser Leu Arg Ala His Arg Leu His Gln Leu Ala Phe Asp Thr Tyr  
35 40 45

Gln Glu Phe Glu Glu Ala Tyr Ile Pro Lys Glu Gln Lys Tyr Ser Phe  
50 55 60

Leu Gln Asn Pro Gln Thr Ser Leu Cys Phe Ser Glu Ser Ile Pro Thr  
65 70 75 80

Pro Ser Asn Arg Glu Glu Thr Gln Gln Lys Ser Asn Leu Glu Leu Leu  
85 90 95

Arg Ile Ser Leu Leu Leu Ile Gln Ser Trp Leu Glu Pro Val Gln Phe  
100 105 110

Leu Arg Ser Val Phe Ala Asn Ser Leu Val Tyr Gly Ala Ser Asp Ser  
115 120 125

Asn Val Tyr Asp Leu Leu Lys Asp Leu Glu Glu Gly Ile Gln Thr Leu  
130 135 140

Met Gly Arg Leu Glu Asp Gly Ser Pro Arg Thr Gly Gln Ile Phe Lys  
145 150 155 160

Gln Thr Tyr Ser Lys Phe Asp Thr Asn Ser His Asn Asp Asp Ala Leu  
165 170 175

Leu Lys Asn Tyr Gly Leu Leu Tyr Cys Phe Arg Lys Asp Met Asp Lys  
180 185 190

Val Glu Thr Phe Leu Arg Ile Val Gln Cys Arg Ser Val Glu Gly Ser  
195 200 205

Cys Gly Phe Gly Gly Arg Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
210 215 220

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Phe Phe Ser Gly Ser  
225 230 235 240

Glu Ala Thr Ala Ala Ile Leu Ser Arg Ala Pro Trp Ser Leu Gln Ser  
245 250 255

Val Asn Pro Gly Leu Lys Thr Asn Ser Ser Lys Glu Pro Lys Phe Thr

260

265

270

Lys Cys Arg Ser Pro Glu Arg Glu Thr Phe Ser Cys His Trp Thr Asp  
 275 280 285

Glu Val His His Gly Thr Lys Asn Leu Gly Pro Ile Gln Leu Phe Tyr  
 290 295 300

Thr Arg Arg Asn Thr Gln Glu Trp Thr Gln Glu Trp Lys Glu Cys Pro  
 305 310 315 320

Asp Tyr Val Ser Ala Gly Glu Asn Ser Cys Tyr Phe Asn Ser Ser Phe  
 325 330 335

Thr Ser Ile Trp Ile Pro Tyr Cys Ile Lys Leu Thr Ser Asn Gly Gly  
 340 345 350

Thr Val Asp Glu Lys Cys Phe Ser Val Asp Glu Ile Val Gln Pro Asp  
 355 360 365

Pro Pro Ile Ala Leu Asn Trp Thr Leu Leu Asn Val Ser Leu Thr Gly  
 370 375 380

Ile His Ala Asp Ile Gln Val Arg Trp Glu Ala Pro Arg Asn Ala Asp  
 385 390 395 400

Ile Gln Lys Gly Trp Met Val Leu Glu Tyr Glu Leu Gln Tyr Lys Glu  
 405 410 415

Val Asn Glu Thr Lys Trp Lys Met Met Asp Pro Ile Leu Thr Thr Ser  
 420 425 430

Val Pro Val Tyr Ser Leu Lys Val Asp Lys Glu Tyr Glu Val Arg Val  
 435 440 445

Arg Ser Lys Gln Arg Asn Ser Gly Asn Tyr Gly Glu Phe Ser Glu Val  
 450 455 460

Leu Tyr Val Thr Leu Pro Gln Met Ser Gln Phe Thr Cys Glu Glu Asp  
 465 470 475 480

Phe Tyr Gly Gly Gly Gly Asp Ile Asp Lys Leu Val Lys Cys Gly Gly  
 485 490 495



Ile Ser Leu Leu Val Gln Asn Thr Ser Trp Met Leu Leu Leu Leu Leu  
500 505 510

Ser Leu Ser Leu Leu Gln Ala Leu Asp Phe Ile Ser Leu  
515 520 525

<210> 5

<211> 1442

<212> DNA

<213> Artificial Sequence

<220>

<223> fusion protein comprising growth hormone fused to growth hormone

<400> 5

ggatcctcta gactcgaggt cctacaggta tggatctctg gcagctgctg ttgaccttgg	60
cactggcagg atcaagtgat gctcatatgt tcccaaccat tcccttatcc aggctttttg	120
acaacgctag tctccgcgcc catcgtctgc accagctggc ctttgacacc taccaggagt	180
ttgaagaagc ctatatccca aaggaacaga agtattcatt cctgcagaac cccagacct	240
ccctctgttt ctgagagtct attccgacac cctccaacag ggaggaaaca caacagaaat	300
ccaacctaga gctgctccgc atctccctgc tgctcatcca gtcgtggctg gagcccgtgc	360
agttcctcag gagtgtcttc gccaacagcc tgggtgtacgg cgcctctgac agcaacgtct	420
atgacctcct aaaggacctt gaggaaggca tccaaacgct gatggggagg ctggaagatg	480
gcagcccccg gactgggcag atcttcaagc agacctacag caagttcgac acaaactcac	540
acaacgatga cgcactactc aagaactacg ggctgctcta ctgcttcagg aaggacatgg	600
acaaggtcga gacattcctg cgcacgtgc agtgccgctc tgtggagggc agctgtggct	660
tggcgggccg cgggtggcga ggtagtgggtg gcggaggtag cgggtggcga ggttctgggtg	720
gcggaggttc cgaattcttc ccaaccattc ctttatccag gctttttgac aacgctagtc	780
tccgcgcca tcgtctgcac cagctggcct ttgacacctt ccaggagttt gaagaagcct	840
atatcccaaa ggaacagaag tattcattcc tgcagaacct ccagacctcc ctctgtttct	900
cagagtctat tccgacacct tccaacaggg aggaaacaca acagaaatcc aacctagagc	960
tgctccgcat ctccctgctg ctcatccagt cgtggctgga gccctgacag ttcttcagga	1020
gtgtcttcgc caacagcctg gtgtacggcg cctctgacag caacgtctat gacctcctaa	1080
aggacctaga ggaaggcatc caaacgctga tggggagggt ggaagatggc agcccccgga	1140

ctgggcagat cttcaagcag acctacagca agttcgacac aaactcacac aacgatgacg 1200  
 cactactcaa gaactacggg ctgctctact gcttcaggaa ggacatggac aaggtcgaga 1260  
 cattcctgcg catcgtgcag tgccgctctg tggagggcag ctgtggcttc ggcggtggag 1320  
 gggatatcga caagctggtc aagtgtggcg gcataagcct gctggttcag aacacatcct 1380  
 ggatgctgct gctgctgctt tccctctccc tctccaagc cctagacttc atttctctgt 1440  
 ga 1442

<210> 6

<211> 470

<212> PRT

<213> Artificial Sequence

<220>

<223> fusion protein comprising growth hormone fused to growth hormone

<400> 6

Met Asp Leu Trp Gln Leu Leu Leu Thr Leu Ala Leu Ala Gly Ser Ser  
 1 5 10 15

Asp Ala His Met Phe Pro Thr Ile Pro Leu Ser Arg Leu Phe Asp Asn  
 20 25 30

Ala Ser Leu Arg Ala His Arg Leu His Gln Leu Ala Phe Asp Thr Tyr  
 35 40 45

Gln Glu Phe Glu Glu Ala Tyr Ile Pro Lys Glu Gln Lys Tyr Ser Phe  
 50 55 60

Leu Gln Asn Pro Gln Thr Ser Leu Cys Phe Ser Glu Ser Ile Pro Thr  
 65 70 75 80

Pro Ser Asn Arg Glu Glu Thr Gln Gln Lys Ser Asn Leu Glu Leu Leu  
 85 90 95

Arg Ile Ser Leu Leu Leu Ile Gln Ser Trp Leu Glu Pro Val Gln Phe  
 100 105 110

Leu Arg Ser Val Phe Ala Asn Ser Leu Val Tyr Gly Ala Ser Asp Ser  
 115 120 125

Asn Val Tyr Asp Leu Leu Lys Asp Leu Glu Glu Gly Ile Gln Thr Leu  
 130 135 140

Met Gly Arg Leu Glu Asp Gly Ser Pro Arg Thr Gly Gln Ile Phe Lys  
145 150 155 160

Gln Thr Tyr Ser Lys Phe Asp Thr Asn Ser His Asn Asp Asp Ala Leu  
165 170 175

Leu Lys Asn Tyr Gly Leu Leu Tyr Cys Phe Arg Lys Asp Met Asp Lys  
180 185 190

Val Glu Thr Phe Leu Arg Ile Val Gln Cys Arg Ser Val Glu Gly Ser  
195 200 205

Cys Gly Phe Gly Gly Arg Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
210 215 220

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Phe Phe Pro Thr Ile  
225 230 235 240

Pro Leu Ser Arg Leu Phe Asp Asn Ala Ser Leu Arg Ala His Arg Leu  
245 250 255

His Gln Leu Ala Phe Asp Thr Tyr Gln Glu Phe Glu Glu Ala Tyr Ile  
260 265 270

Pro Lys Glu Gln Lys Tyr Ser Phe Leu Gln Asn Pro Gln Thr Ser Leu  
275 280 285

Cys Phe Ser Glu Ser Ile Pro Thr Pro Ser Asn Arg Glu Glu Thr Gln  
290 295 300

Gln Lys Ser Asn Leu Glu Leu Leu Arg Ile Ser Leu Leu Leu Ile Gln  
305 310 315 320

Ser Trp Leu Glu Pro Val Gln Phe Leu Arg Ser Val Phe Ala Asn Ser  
325 330 335

Leu Val Tyr Gly Ala Ser Asp Ser Asn Val Tyr Asp Leu Leu Lys Asp  
340 345 350

Leu Glu Glu Gly Ile Gln Thr Leu Met Gly Arg Leu Glu Asp Gly Ser  
355 360 365

Pro Arg Thr Gly Gln Ile Phe Lys Gln Thr Tyr Ser Lys Phe Asp Thr  
370 375 380

Asn Ser His Asn Asp Asp Ala Leu Leu Lys Asn Tyr Gly Leu Leu Tyr  
385 390 395 400

Cys Phe Arg Lys Asp Met Asp Lys Val Glu Thr Phe Leu Arg Ile Val  
405 410 415

Gln Cys Arg Ser Val Glu Gly Ser Cys Gly Phe Gly Gly Gly Gly Asp  
420 425 430

Ile Asp Lys Leu Val Lys Cys Gly Gly Ile Ser Leu Leu Val Gln Asn  
435 440 445

Thr Ser Trp Met Leu Leu Leu Leu Ser Leu Ser Leu Leu Gln Ala  
450 455 460

Leu Asp Phe Ile Ser Leu  
465 470

<210> 7  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> growth hormone receptor primer

<400> 7  
gcgcggatcc tctagactcg aggtcctac

29

<210> 8  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> growth hormone receptor primer

<400> 8  
gcgccatatg agcatcactt gatcctgcg

29

<210> 9  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>

<223> primer amplification of human growth hormone

<400> 9

gcgccatatg ttcccaacca ttcccttata